IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Wadih ARAP et al.

Serial No.: 10/530,168

Filed: April 4, 2005

For: COMPOSITIONS AND METHODS OF USE OF TARGETING PEPTIDES FOR DIAGNOSIS AND THERAPY OF HUMAN CANCER Group Art Unit: 1642

Examiner: Christopher H. YAEN

Atty. Dkt. No.: UTSC:857US

Confirmation No.: 5612



INFORMATION DISCLOSURE STATEMENT

MS AMENDMENT Commissioner for Patents P.O. Box 1450

Alexandria, Virginia 22313-1450

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R. § 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be

an admission that the information cited is, or is considered to be, material to patentability as

defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first

Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the

filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. \$ 1.16

to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is

authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-

1212/UTSC:857US.

case.

This application is related by inventorship and subject matter to co-pending U.S. Application No. 10/363,208, filed March 7, 2003.

Applicants respectfully request that the listed documents be made of record in the present

David L. Parker Reg. No. 32,165 Attorney for Applicants

FULBRIGHT & JAWORSKI L.L.P. 600 Congress Avenue, Suite 2400 Austin, Texas 78701 (512) 474-5201

Date: February 23, 2007

			Page 1 of 7
Form PTO-1449 (modified)		Atty. Docket No.	Serial No.
		UTSC:857US	10/530,168
List of Patents and Publications fo	Applicant's	Applicant	•
		Wadih Arap, et al.	
INFORMATION DISCLOSURE S	TATEMENT		
		Filing Date:	Group:
(Use several sheets if necess	ary)	April 4, 2005	1643
U.S. Patent Documents	Foreign I	atent Documents	Other Art
C D 1 2		B 2	C D 1 7

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	2003/0113320	6/19/03	Ruoslehti et al.	424	143.1	10/03/02
	A2	2001/0046498	11/29/01	Rouslahti et al.	424	178.1	1/17/01
	A3	4,472,509	9/18/84	Gansow and Strand	436	548	6/07/82
	A4	4,912,040	3/27/90	Kaufman and Domer	435	69.6	2/03/87
	A5	4,931,053	06/05/90	L'Esperance, Jr.	686	2	01/27/88
	A6	5,021,236	6/04/91	Gries et al.	424	9	3/02/87
	A7	5,081,034	1/14/92	Bevilasqua et al.	435	252.33	11/14/88
	A8	5,098,833	03/24/92	Lasky et al.	435	69.1	2/23/89
	A9	5,188,964	2/23/93	McGuire et al.	436	64	4/12/90
	A10	5,196,523	3/23/93	Lee	536	23.5	5/19/89
	A11	5,206,347	4/27/93	Ruoslahti et al.	530	413	7/13/90
	A12	5,216,131	6/01/93	Lasky et al.	435	69.1	2/23/89
	A13	5,223,409	6/29/93	Ladner et al.	435	69.7	3/01/91
	A14	5,225,538	7/06/93	Capon et al.	530	387.3	12/16/91
	A15	5,259,380	11/09/93	Mendes et al.	607	115	11/15/90
	A16	5,270,163	12/14/93	Gold et al.	435	6	8/17/92
	A17	5,288,846	2/22/94	Quertermous et al.	435	172.3	8/03/92
	A18	5,304,640	4/19/94	Asky et al.	536	23.5	2/13/92
	A19	5,415,874	5/16/95	Bender et al.	424	520	10/31/89
	A20	5,428,130	6/27/95	Capon et al.	530	350	12/08/92
	A21	5,453,362	9/26/95	Lamarco et al.	435	69.1	4/12/93
	A22	5,463,026	10/31/95	Nakamura and Sato	530	387.3	2/24/94
	A23	5,464,436	11/07/95	Smith	607	89	04/28/94

25716066.1

EXAMINER: DATE CONSIDERED;

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NICH COMMERCIATION TO APPLICANT.

Form PTO-1449 (modified)		Atty. Docket No.	Serial No.
		UTSC:857US	10/530,168
List of Patents and Publications for	Applicant's	Applicant	
		Wadih Arap, et al.	
INFORMATION DISCLOSURE S	TATEMENT		
		Filing Date:	Group:
(Use several sheets if necessi	ury)	April 4, 2005	1643
U.S. Patent Documents Foreign I		atent Documents	Other Art
See Page 1-3	S	ce Page 3	See Page 3-7

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A24	5,492,807	2/20/96	Santi	435	5	11/19/93
	A25	5,506,126	4/09/96	Seed et al.	435	172.3	1/18/93
	A26	5,536,814	7/16/96	Ruoslahti et al.	530	329	3/11/94
	A27	5,585,277	12/17/96	Bowie et al.	436	518	03/21/95
	A28	5,622,699	4/22/97	Ruoslahti et al.	424	93.6	9/11/95
	A29	5,670,312	9/23/97	Santi	435	5	11/17/95
	A30	5,688,692	11/18/97	Jet et al.	435	354	2/11/93
	A31	5,688,935	11/18/97	Stephens et al.	536	23.1	5/03/95
	A32	5,705,610	1/06/98	Zuckerman et al.	530	338	10/01/93
	A33	5,750,344	5/12/98	Doyle	435	6	10/04/95
	A34	5,840,841	11/24/98	Zuckerman et al.	530	338	5/08/97
	A35	5,866,759	2/02/99	Jat et al.	800	3	7/02/97
	A36	5,902,598	5/11/99	Chen and Ashton	424	423	8/28/97
	A37	5,955,572	9/21/99	Ruoslahti and Pasqualini	530	317	5/14/98
	A38	6,057,098	05/02/00	Buechler et al.	435	6	04/04/97
	A39	6,068,829	5/30/00	Ruoslahti and Pasqualini	242	9.1	6/23/97
	A40	6,093,800	7/25/00	Reiter et al.	530	350	9/5/97
	A41	6,174,861	1/16/01	O'Reilly and Folkman	514	12	7/07/99
	A42	6,184,973	02/06/01	Baer et al.	356	36	04/10/98
	A43	6,215,550	04/10/01	Bacr et al.	356	36	07/23/98
	A44	6,232,440	5/15/01	Hillman et al.	530	350	4/20/99
	A45	6,261,789	7/17/01	Reiter et al.	435	7.23	2/17/99
	A46	6,271,196	08/07/01	O'Brien	514	2	03/05/96

25716066.1

EXAMINER: DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN COMPORMANCE WITH MPEPAGY; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE CORY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT,

See Page 3-7

Form PTO-1449 (modified) Atty, Docket No. Serial No. UTSC:857US 10/530,168 List of Patents and Publications for Applicant's Applicant Wadih Arap, et al. INFORMATION DISCLOSURE STATEMENT Filing Date: Group: (Use several sheets if necessary) April 4, 2005 1643 U.S. Patent Documents Foreign Patent Documents Other Art

See Page 3

C.C. I delle Documents							
Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A47	6,350,855	2/26/02	Tobin	530	350	9/15/97
	A48	6,372,720	4/16/02	Longmuir et al.	514	44	2/5/98
	A49	6,399,384	6/04/02	Jat	435	456	9/15/00
	A50	6,458,381	10/01/02	Sourovoi and Jung	424	450	2/12/97
	A51	6,528,281	3/04/03	Tobin	435	69.1	6/14/96

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Language
	B1	WO 99/47554	9/23/99	WIPO	English
	B2	WO 02/020723	3/14/02	WIPO	English
	B3	WO 02/20822	3/14/02	WIPO	English
	B4	WO 03/022991	3/20/03	WIPO	English

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	Cl	Arap et al., "Cancer Treatment by Targeted Drug Delivery to Tumor Vasculature in a Mouse Model," Science, 279:377-380, 1998.
	C2	Arap et al., "Chemotherapy targeted to tumor vasculature," Curr. Opin. Onocol., 10:560-565, 1998.
	C3	Arap et al., "Steps toward mapping the human vasculature by phage display." Nature Med., 8:121-127, 2002.
	C4	Barrow and Soothill, "Bacteriophage therapy and prophylaxis: rediscovery and renewed assessment of potential," Trands Microbiol., 5:268-271, 1997.
	C5	Bergelson et al., "Isolation of a Common Receptor for Coxsackie B Viruses and Adenoviruses 2

25716066.1

See Page 1-3

EXAMINER:	DATE CONSIDERED;				
EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609: DRAW LINE TUROUGH					
CITATION IF NOT IN CONFORMANCS AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.					

		Page 4 of	7
Form PTO-1449 (modified)	Atty. Docket No.	Serial No.	_
	UTSC:857US	10/530,168	
List of Patents and Publications for Applicant's	Applicant Wadih Arap, et al.		
INFORMATION DISCLOSURE STATEMENT			
(Use several sheets if necessary)	Filing Date:	Group:	_

U.S. Patent Documents See Page 1-3	Foreign Patent Documents See Page 3	Other Art See Page 3-7
Other Art (Includi	ng Author, Title, Date Perti	nent Pages Etc.)

Exam. Init.	Ref. Des.	Citation
	C6	Brawn et al., "Prostatic Acid Phosphatase Levels (Enzymatic Method) From Completely Sectioned, Clinically Benign, Whole Prostates," <i>The Prostate</i> , 28:295-299, 1996.
	C7	Burg et al., "NG2 Proteoglycan-binding Peptides Target Tumor Neovasculature," Cancer Res, 59:2869-2874, 1999.
	C8	Campbell et al., "Increased Expression of the Interleukin-11 Receptor and Evidence of STAT3 Activation in Prostate Carcinoma." Am. J. Pathol., 158-25-32, 2001.
	C9	Chen et al., "Thapsigargin-induced grp78 expression is mediated by the increase of cytosolic free calcium in 9L rat brain tumor cells," J. Cell. Blochem., 78:404-416, 2000.
	C10	Choongkittaworn et al., "Expression of prohibitin in rat seminiferous epithelium," Biol. Reprod., 49(2):300-310, 1993.
	C1I	Curnis et al., "Enhancement of tumor necrosis factor alpha antitumor immunotherapeutic properties by targeted delivery to aminopeptidase N (CD13)," Nat Biotechnol., (11):1185-90, 2000.
	C12	Database NCBI on STN, Accession Number G69514, Klerak et al., "The Complete Genome Sequence of the Hyperthermophilic, Sulphate-reducing Archaeon Archaeoglobus Fulgidus," Nature, 3903-84-370, 1997.
	C13	Database NCBI on STN, Accession Number T21276, Matthews et al., "Direct Submission," 1999.
	C14	Delpino et al., "Cell surface localization of the 78 kD glucose regulated protein (GRP 78) induced by thapsigargin," Mol. Membr. Biol., 15(1):21-26, 1998.
	C15	Ellerby et al., "Anti-cancer activity of targeted pro-apoptotic peptides," Nature Med., 5:1032-1038, 1999.
	C16	Giannakouros et al., "Poet-translational Processing of Schizosaccharomyces pombe YPT5 Protein: In Vitro and In Vivo Analysis of Processing Mutants," Journal of Biological Chemistry, 268:24467-2474, 1993.
	C17	Grifman et al., "Incorporation of Tumor-Targeting Peptides into Recombinant Adeno-associated Virus Capsids," Mol. Ther., 3(6):964-975, 2001.
	C18	Harrington et al., "Gene Therapy for prostate cancer: current status and future prospects," J. Urol., 166:1220-1233, 2001.

25716066.1

EXAMINER: DATE CONSIDERED: EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. ENCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

					Page 5 of 7	
Form P	TO-144	9 (modified)		Atty. Docket No. UTSC:857US	Serial No. 10/530.168	
List of Patents and Publications for Applicant's			Applicant's	Applicant Wadih Arap, et al.		
INF	ORMATIC	N DISCLOSURE S'	TATEMENT			
	(Use s	everal sheets if necessa	ry)	Filing Date: April 4, 2005	Group: 1643	
U.	U.S. Patent Documents Foreign			atent Documents	Other Art	
	See Pa	ige I-3	S	ee Page 3	See Page 3-7	
	Other .	Art (Includir	g Author,	Title, Date Per	tinent Pages, Etc.)	
Exam. Init.	Ref. Des.	Citation				
	C19	Hong et al., "Adenovirus type 5 fiber knob binds to MHC class I alpha-2 domain at the surface of human epithelial and B lymphoblastoid cells," EMBO J., 16:2294-2306, 1997.			lass I alpha-2 domain at the surface of 2294-2306, 1997.	
	C20	Huang et al., "Con Prostatic Acid Ph Prostate Carcinon	osphatase as a So	crum Biomarker for Dia	Vith Prostate Specific Antigen and gnosis and Monitoring Patients With	
	C21	Ikonen et al., "Pro Letters, 358(3):27		roliferative protein, is k	ocalized to mitochondria," FEBS	
	C22	22 Ino et al., "Expression of aminopeptidase A in human gestational choriocarcinoma cell lines and tissues," Placenta, 21:63-72, 2000.				
	C23	Koivunen et al., "Inhibition of Beta(2) Integrin-mediated Leukocyte Cell Adhesion by Leucine-Leucine-Glycine Motif-containing Peptides." J. Cell Biol., 153:905-915, 2001.				
	C24	Koivunen et al., "Tumor targeting with a selective gelatinase inhibitor," Nature Biotechnol, 17:768-774, 1999a.				
	C25	5 Larocca et al., "Gene transfer to mammalism cells using genetically targeted filamentous becteriophage," FASEB J, 13:727-734, 1999.				
	C26	Mahboubi et al., " J. Immunol., 164:			is to Resist Immune-Mediated Injury,"	
C27 Melnick and Argon, "Molecular chaperones and the biosynthesis of antigen receptors." Immunol.						

25716066.1

C28

C29

C30

C31

EXAMINER: DATE CONSIDERED:

Cancer." J. Urol., 158:687-698, 1997.

Today, 16:243-250, 1995.

277(44):42082-7, 2002.

380:364-366, 1996.

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEPSOD; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

Misra et al., "The role of Gro 78 in alpha 2-macroelobulin-induced signal transduction. Evidence from RNA interference that the low density lipoprotein receptor-related protein is associated with, but not necessary for, GRP 78-mediated signal transduction." J Biol Chem.

Murphy et al., "Evaluation and Comparison of Two New Prostate Carcinoma Markers. Free-Prostate Specific Antigen and Prostate Specific Membrane Antigen." Cancer, 78:809-818, 1996.

O'Dowd et al., "Update on the Appropriate Staging Evaluation for Newly Diagnosed Prostate

Pasqualini and Ruoslahti, "Organ targeting in vivo using phage display peptide libraries," Nature

			Page 6 of 7
Form PTO-1449 (modified)		Atty. Docket No.	Serial No.
		UTSC:857US	10/530,168
List of Patents and Publications for	Applicant's	Applicant Wadih Arap, et al.	
INFORMATION DISCLOSURE ST	TATEMENT		
		Filing Date:	Group:
(Use several sheets if necessar	ry)	April 4, 2005	1643
U.S. Patent Documents	Foreign	Patent Documents	Other Art

Other Art	(Including	Author.	. Title.	Date	Pertinent I	Pages, Etc.)

Exam.	Ref. Des.	Citation
	C32	Pasqualini et al., "Aminopeptidase N 1 a Receptor for Tumor-homing Peptides and a Target for Inhibiting Angiogenesis," Cancer Rex., 60:722-727, 2000.
	C33	Pasqualini, "Vascular targeting with phage peptide libraries," The Quart. J. Nucl. Med., 43:159- 162, 1999.
	C34	Piironen et al., "Immunofluorometric assay for sensitive and specific measurement of human prostatic glandular kallikrein (hK2) in seram." Clin. Chem., 42:1034-1041, 1996.
	C35	Poul and Marks, "Targeted Gene Delivery to Mammalian Cells by Filamentous Bacteriophage," J. Mol. Biol., 288:203-211, 1999.
	C36	Raisler et al., "Adeno-associated virus type-2 expression of pigmented epithelium-derived factor or Kringles 1-3 of angiostatin reduce retinal neovascularization," Proc. Natl. Acad. Sci., 99:8909- 8914, 2002.
	C37	Rajotte and Ruoslahti, "Membrane Dipeptidase Is the Receptor for a Lung-targeting Peptide Identified by in Vivo Phage Display," J Biol Chem., 274:11593-11598, 1999.
	C38	Rajotte et al., "Molecular Heterogeneity of the Vascular Endothelium Revealed by In Vivo Phage Display," J Clin. Invest., 102:430-437, 1998.
	C39	Ruoslahti, "RGD And Other Recognition Sequences For Integrins," Annu. Rev. Cell Dev. Biol., 12:697-715, 1996.
	C40	Shl et al., "Adeno-associated virus-mediated gene transfer of endostatin inhibits angiogenesis and tumor growth in vivo," Cancer Gene Therapp, 9:513-521 (2002)
	C41	Smith and Scott, "Libraries of Peptides and Proteins Displayed on Filamentous Phage," Meth. Enzymol, 217:228-257, 1993.
	C42	Trepel et al., "Molecular Adaptors for Vascular-Targeted Adenoviral Gene Delivery," Hum. Gene. Ther., 11:1971-1981, 2000.
	C43	Tsimanis et al., "Over-expression of the functional interleukin-11 alpha receptor in the development of B-cell chronic lymphocytic leukemis," Leuk. Lymphoma, 42(1-2):195-205, 2001.
	C44	Veltri et al., "Interleukin-8 Serum Levels in Patients With Benign Prostatic Hyperplasia and Prostate Cancer," Urology, 53:139-147, 1999.

25716066.1

EXAMINER: DATE CONSIDERED: EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP/S09; DIAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT - PTO-1449 (MODIFIED)

See Page 3-7

Form PTO-1449 (modified)	Atty. Docket No.	
	UTSC:857US	10/530,168
List of Patents and Publications for	Applicant's Applicant Wadih Arap, et a	el.
INFORMATION DISCLOSURE \$7	ATEMENT	
	Filing Date:	Group:
(Use several sheets if necessar	y) April 4, 2005	1643
U.S. Patent Documents	Foreign Patent Documents	Other Art

See Page 3 Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init,	Ref. Des.	Citation
	C45	Vendruscolo et al., "Three key residues form a critical contact network in a protein folding transition state," Nature, 409:641-45, 2001.
	C46	Wang et al., "Prohibitin, a potential tumor suppressor, interacts with RB and regulates E2F function," Oncogene, 18(23):3501-3510, 1999.
	C47	Weitzman et al., "Adenovirus Vectors in Cancer Gene Therapy," In: Gene Therapy Technology and Vector Systems, 2:17-25, 1997.
	C48	Wickham, "Targeting adenovirus," Gene Ther, 7:110-114, 2000.
	C49	Zhang, "Development and application of adenoviral vectors for gene therapy of cancer," Cancer Gene Ther., 6:113-138, 1999.

25716066.1

See Page 1-3

DATE CONSIDERED: EXAMINER: EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFIDENCE WITH MPEP 609, DRAW LINE THROUGH CITATION IF NOT IN CONFIDENCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.